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Erroneous Records of *Lespedeza* (Leguminosae: Papilionoideae) from Japan

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The records of native occurrence of *Lespedeza floribunda* Bunge and *L. inschanica* (Maxim.) Schindl. from Japan are erroneous. These were based on misidentification of herbarium specimens; the former is *L. bicolor* Turcz. and the latter *L. juncea* (L.f.) Pers. The two misidentified species should be excluded from the indigenous flora of Japan.

Key words: introduced plants, Japanese indigenous flora, *Lespedeza*, misidentification.

Recently several species of *Lespedeza* native to China have been found in Japan. These are believed to have been imported from China in seed-mix, which had been distributed by a road construction company along roads constructed about 10 years ago in many places in Japan. During our examination of the alien *Lespedeza* plants, we noticed that previous records of *Lespedeza floribunda* Bunge by Nakai (1932) and *L. inschanica* (Maxim.) Schindl. by Nakai (1927) and Okuyama (1938) are dubious. Then we reexamined the voucher specimens and related material and found that these records are indeed erroneous. No evidence is found for their native occurrence in Japan. The two species should, therefore, be excluded from the indigenous flora of Japan. They were, however, amongst those introduced *Lespedeza* species found recently in Japan. The newly naturalized *Lespedeza* species, including *L. floribunda* and *L. inschanica*, are separately reported in another paper in this issue (Ohashi et al. 2003).

1. ***Lespedeza floribunda*** Bunge

This species was recorded from Japan by Nakai (1932) based on a herbarium specimen now kept in TI. It was collected by an unknown collector in "Prov. Higo: in oppido Shirami". The specimen was determined by Nakai as *Lespedeza floribunda* Bunge (Fig. 1). However, this record has been neglected in any Floras of Japan. We examined the specimen and found that it is *L. bicolor* Turcz. The specimen is a slender branch ca. 25 cm long with small, emarginate leaflets and short flowering racemes which may be superficially similar to *L. floribunda*. However, the specimen is entirely different from *L. floribunda* in lacking cleistogamous flowers which are always present at the base of the racemes in *L. floribunda*, and in having the broadly elliptic leaflets (obovate to elliptic in *L. floribunda*), the calyx lobed above the middle and the lobes shorter than the tube (lobes longer than the tube in *L. floribunda*). As well as those, there are other differences in the calyx-lobes and lateral nerves of the leaflets. The voucher specimen is undoubtedly referable

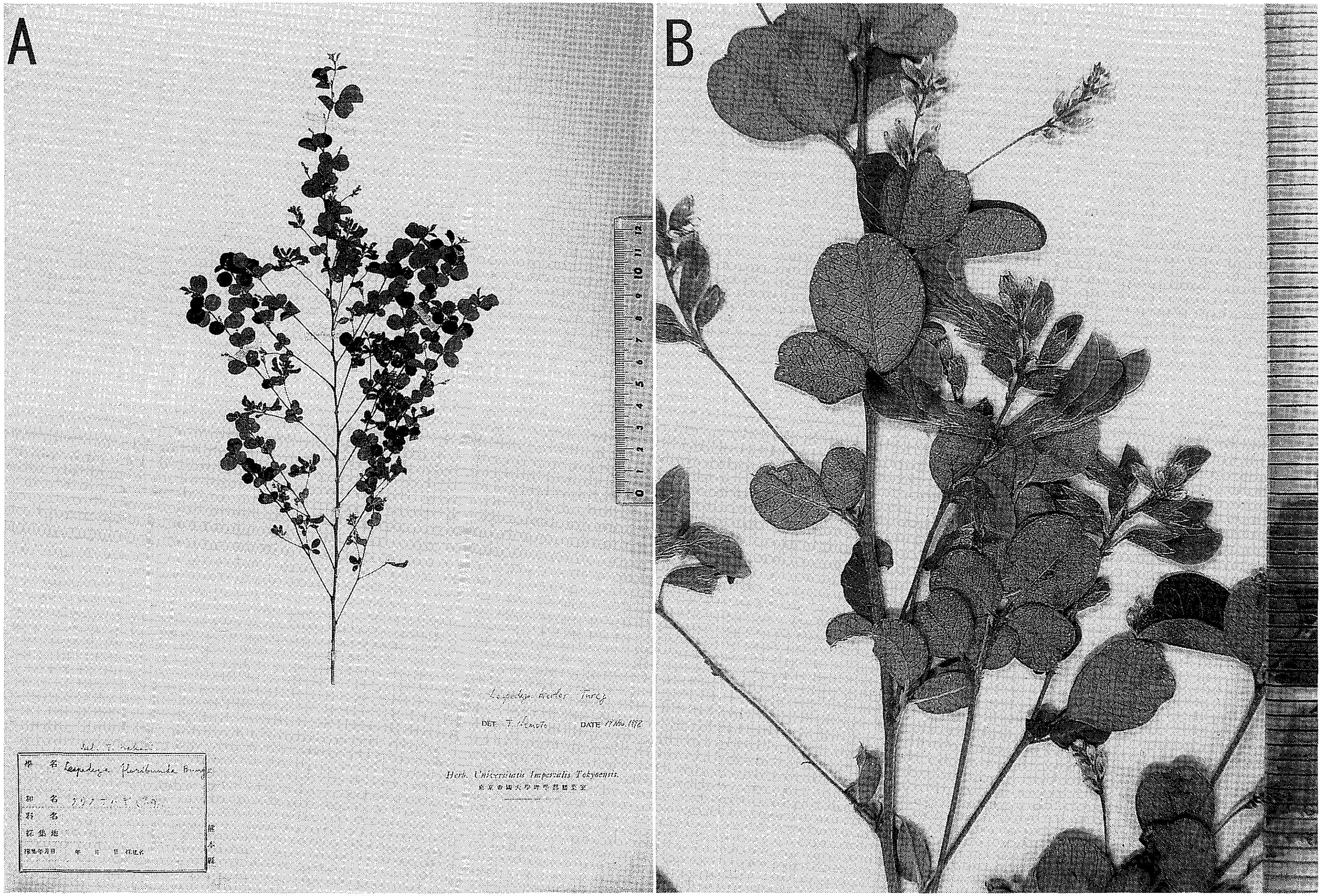

Fig. 1. A, B. Voucher specimen of *Lespedeza floribunda* auct. non Bunge: Nakai (1932) in TI.

to *L. bicolor* Turcz. which is common in Kyushu. Nakai's record, therefore, should be treated as follows:

Lespedeza bicolor Turcz.: Akiyama in Univ. Mus., Univ. Tokyo, Bull. no. 33: 92 (1988); H.Ohashi in K.Iwats. & al., Fl. Jap. **IIb**: 261 (2001).

L. floribunda auct. non Bunge: Nakai in Bot. Mag. Tokyo **46**: 56 (1932).

Specimen examined: Japan. Kyushu. Kumamoto Pref., Aso-gun, Shirami-mura. Unknown collector (TI).

2. ***Lespedeza inschanica*** (Maxim.) Schindl.

The first record of *Lespedeza inschanica* (Maxim.) Schindl. from Japan was made by Schindler (1913), but he recognized the species as imported from North China or Korea. Moreover, he had doubts as to the identity of the specimens from Japan by supposing them to be a hybrid between *L. inschanica* and *L. sericea* (= *L. cuneata*). Judging from the localities of the specimens he cited under *L. inschanica* in Japan, the specimens seem to be referable to *L. cuneata* (Dum. Cours.) G.Don and its variety, var. *serpens* (Nakai) Ohwi, not *L. inschanica*.

Nakai (1927) recorded the natural occurrence of *L. inschanica* from Japan for the first time based on a specimen collected by himself in Tokyo, i. e., Hondo: in arenosis Tamagawa prov. Musashi (TI) (Fig. 2). Nakai (1927) recognized this species as a variety of *L. cytisoides* (Pallas) Nakai (erroneously using the specific epithet as "*cystoides*"), i. e., var. *inschanica* (Maxim.) Nakai. He considered that the type of *Trifolium cytisoides* Pallas (= *L. cytisoides* (Pallas) Nakai) is a Siberian plant and differs from plants of China, Japan and Korea at the varietal rank. Then, he reported var. *inschanica* from China, Korea and Japan. This name was adopted by Makino and Nemoto (1931) and Honda (1939) in their list of the Japanese flora, but the combination of the species was a later homonym as pointed out by Okuyama (1938). Okuyama (1938) found a specimen referable to the Nakai's variety which was collected by Hanzaburo Sakurai from Mt. Ôyama in Prov. Sagami in 1851 (TNS 7405), but he treated it as a distinct species in order to avoid nomenclatural confusion with Nakai's varietal name and so applied the name *L. inschanica* (Maxim.) Schindl.

Nakai (1927) mentioned in the note of his *L. cytisoides* (Pallas) Nakai that "the loments of the type of *Trifolium cytisoides* pilose while those are described as glabrous in *Hedysarum junceum* Willd. and *Lespedeza juncea* Pers. I wonder whether *Hedysarum junceum* Willd. and *Lespedeza juncea* Pers. should belong to this *Lespedeza cystoides* or not. *Hedysarum junceum* of small Linnaeus was collected in India. It differs from the Siberian plant, ..." (on page 94). Ohwi (1953), however, regarded *L. cytisoides* (Pallas) Nakai and its related names to be synonyms of *L. juncea* (L. f.) Pers., but did not cite any names based on the type of *L. juncea* var. *inschanica* Maxim. Since Ohwi's treatment (1953), *L. cytisoides* var. *inschanica* (Maxim.) Nakai or *L. inschanica* (Maxim.) Schindl. have not been adopted in the legume floras of Japan (Kitamura and Murata 1961, Ohwi 1965a, 1965b, Ohashi 1982, 2001), and those specimens have not been cited in related works (e.g., Flora of Kanagawa 2001).

Lespedeza inschanica is different from *L. juncea* (Schindler 1913, Li and Chen 1995, Nemoto and Ohashi 1999). The Nakai's specimen from Tamagawa (TI) and Okuyama's from Mt. Ôyama (TNS) are referable to *L. juncea*, because the specimens have narrowly obovate leaflets with an obtuse apex (elliptic or obovate, rounded to retuse in *L. inschanica*) and pedicels about 2 mm long (about 1 mm long in *L. inschanica*). The records of *L. inschanica* from Japan should, therefore, be excluded from the native flora of Japan. *Lespedeza juncea* is found in native (not recently

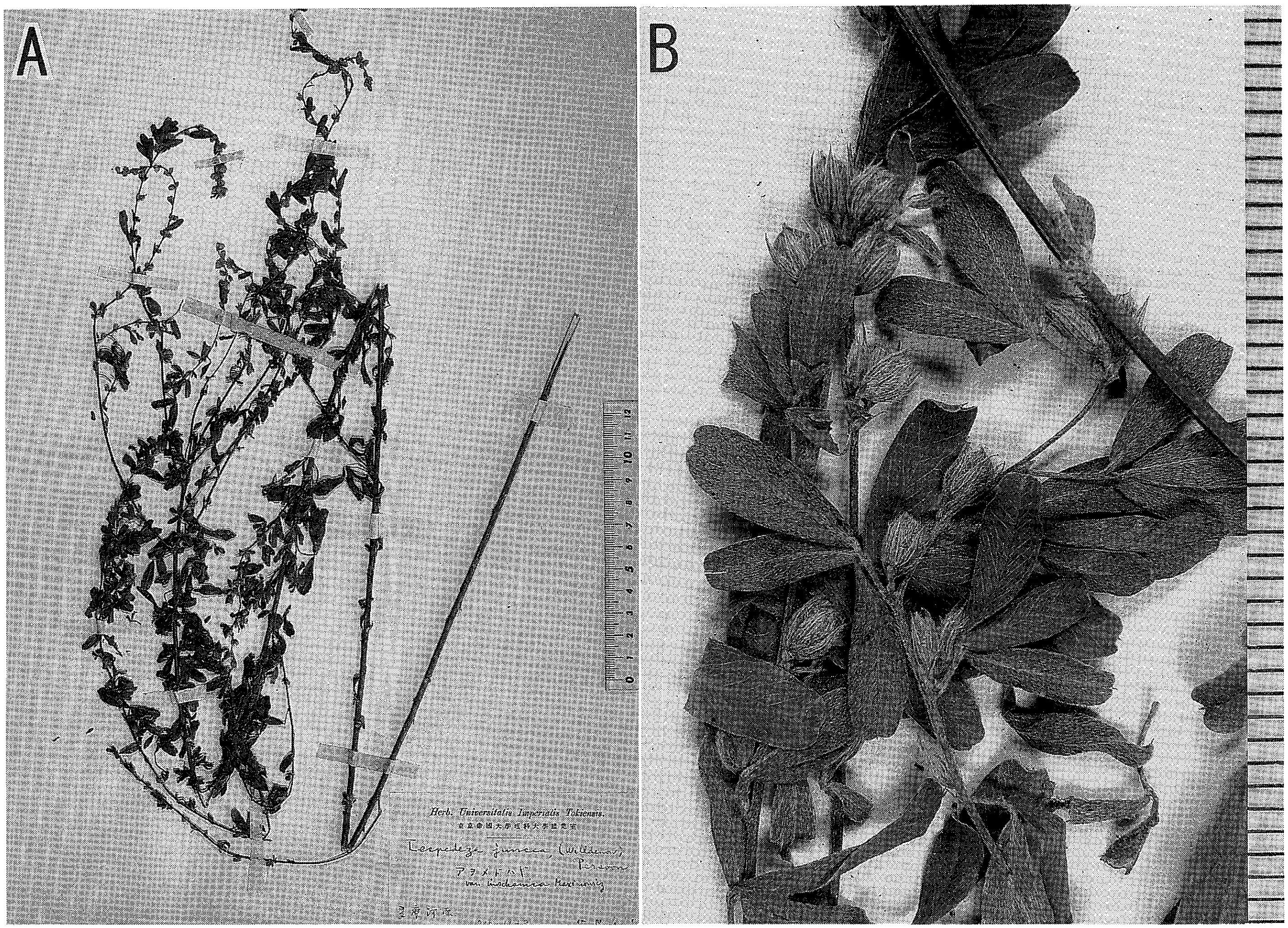
A
B
0 1 2 3 4 5 6 7 8 9 10 11 12
Herb. Universitatis Imperialis Tokiensis.
Lespedeza juncea (Willdenow) Persoon
カラメドハギ
var. inschanica Maximowicz

Fig. 2. A, B. Voucher specimen of *Lespedeza cystoides* (Pallas) Nakai var. *inschanica* (Maxim.) Nakai collected by Nakai in 1922 at River Tamagawa Beach in Tokyo Pref. (TI).

naturalized) in grasslands especially by a river and roadsides in Japan from Hokkaido, Honshu, and Shikoku.

Kitagawa (in Ohwi and Kitagawa 1983) identified the plants that had been called *Lespedeza juncea* by Ohwi (1953) to be *L. hedysaroides* (Pall.) Kitag. var. *subsericea* (Komar.) Kitag. He (1979) considered that *L. hedysaroides* var. *inschanica* (Maxim.) Kitag. is not distributed in Japan. *Lespedeza hedysaroides* is the name proposed by Kitagawa (1939) instead of *L. cytisoides* (Pallas) Nakai, a later homonym of *L. cytisoides* Benth. published in 1854. Actually, the two varieties were compared and distinguished by Nakai (1927) as distinct within *L. cytisoides*. According to Nakai (1927), var. *subsericea* (as *L. cystoides* var. *subsericea* (Komarov) Nakai) differs from var. *inschanica* (as *L. cystoides* var. *inschanica* (Maxim.) Nakai) in having narrowly cuneiform leaflets (narrowly oblong or narrowly obovate-elliptic in var. *inschanica*). We examined authentic specimens of *L. cytisoides* (or *L. hedysaroides*) var. *subsericea*, but it is identical with *L. juncea*, because they are included within a continuous variation range of *L. juncea* in the diagnostic character and, also, in leaves and flowers.

Kitagawa considered that the plant of the type specimen of *Hedysarum junceum* to be different from Siberian plants. This treatment of the *Lespedeza juncea* and *L. hedysaroides* problem is based on the same arguments of those in Nakai (1927). Pramanik and Thothathri (1983), however, pointed out that *H. junceum* was described from Siberia and Tartary (Tatariya) with doubts about its occurrence in India, and that typical *L. juncea* does not occur in India. The difference between Nakai (1927) or Kitagawa (in Ohwi and Kitagawa 1983) and Ohwi (1953) is derived from a differing opinion as to whether *L. juncea* is identical with *L. hedysaroides* or not. We adopt at present Ohwi's concept for the *L. juncea* and *L. hedysaroides* problem based on the conclusion of Pramanik and Thothathri (1983) that they are the same species.

Lespedeza juncea (L.f.) Pers.: Ohwi, Fl. Jap. 680 (1953), l.c. ed. Engl.: 560 (1965), l.c. ed. rev.: 792 (1965); Kitam. & Murata, Col. Illust. Herb. **2**: 97 (1961); Osada, Illust. Jap. Alien Pl. 114 (1972); H.Ohashi in Wild Herb. **2**: 206 (1982); Pramanik & Thothathri in J. Jap. Bot. **58**: 333 (1983); Charkevicz, Pl. Vasc. Orient. Extr. Soviet. **4**: 202 (1989); Nemoto & H.Ohashi in J. Jpn. Bot. **74**: 274 (1999); H.Ohashi in K.Iwats. & al., Fl. Jap. **IIb**: 264 (2001).

L. cystoides (Pallas) Nakai var. *inschanica* (Maxim.) Nakai, Lesp. Jap. Kor.: 95 (1927), p. p., incl. specim. Jap.; Makino & Nemoto, Fl. Jap. ed. 2, 579 (1931), ut "*inschaunica*"; Honda, Nom. Pl. Jap.: 175 (1939).

L. hedysaroides (Pallas) Kitag. var. *subsericea* (Komar.) Kitag. in Ohwi & Kitag., New Fl. Jap. 896 (1983).

L. inschanica auct. non (Maxim.) Schindl.: Okuyama in J. Jap. Bot. **14**: 340–344 (1938).

Specimens examined: Japan. Honshu. Tokyo Pref.: River Tama-gawa Beach. Oct. 1922. T. Nakai (TI); Kanagawa Pref.: Ôyama. 10 Oct. 1851. H. Sakurai (TNS).

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大橋広好[a]，根本智行[b]：日本自生種と誤認されたマメ科ハギ属の2種

トウクサハギ *Lespedeza floribunda* Bunge とカラメドハギ *L. cytisoides* (Pallas) Nakai var. *inschanica* (Maxim.) Nakai または *L. inschanica* (Maxim.) Schindl. は日本の自生種として報告されていたが，これらの報告は間違いである．トウクサハギは Nakai (1932) によって記録された．熊本県阿蘇郡白水村で採集された標本に基づくもので，田代善太郎から中井猛之進に送られ，採集者，採集年月日は不明である．「ヤマハギの葉と花を小さくしたようなもの」（中井：日鮮植物管見第四十一ノ解 p. 98, 1932）と説明されたものであるが，証拠標本（Fig. 1）を再検査してみるとヤマハギであった．したがって，*Lespedeza floribunda* は日本の自生フロラから除外すべきものである．

Lespedeza inschanica が日本にあるらしいと最初に報告したのは Schindler (1913) であるが，それは帰化したものであろうとした．しかし，この根拠となった標本はメドハギとハイメドハギではないかと考えられる．中井（1927）は *Lespedeza inschanica* (*L. cystoides* var. *inschanica* として発表)を初めて日本の自生種として報告し，カラメドハギと名付けた．中井の証拠標本（Fig. 2）は東京都多摩川河原（T. Nakai, Oct. 1922, TI）で採集されたが，それを再検査してみると *L. juncea* (L. f.) Pers. の誤同定であった．奥山（1938）も神奈川県大山で桜井半三郎が明治 18 年に採集した標本（TNS 7405）がカラメドハギであることを報告したが，この標本も *L. juncea* であった．*Lespedeza inschanica* と *L. juncea* は別種であると考えられる（Schindler 1913, Li and Chen 1995, Nemoto and Ohashi 1999）．このため *L. inschanica* も日本の自生フロラから除外すべきものである．大井（1953）は *L. juncea* を日本から報告した際に，*L. inschanica* と *L. juncea* は別種であると示しながら，カラメドハギという和名を *L. juncea* に使用した．*L. juncea* に対してはシベリアメドハギという和名を使うべきであろう．和名の問題についてはハギ属の帰化植物を報告した別報（大橋他 2003）にまとめたい．

愛媛県西条高校の伊藤隆之氏に四国産の帰化ハギ類の標本を送っていただいた．国立科学博物館の門田裕一博士に奥山氏の証拠標本を探し出していただいた．また，東京大学植物標本室で中井博士の証拠標本を調べることができた．お礼を申し上げます．

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